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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/713,344

11/14/2003

Daniel J. Pusiol

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EXAMINER

GAKH, YELENA G

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/713,344	Applicant(s) PUSIOL, DANIEL J.	
	Examiner Yelena G. Gakh, Ph.D.	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 9-94 is/are pending in the application.
- 4a) Of the above claim(s) 17-94 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1797

DETAILED ACTION

1. Amendment filed on 08/22/08 is acknowledged. Claims 3-8 are cancelled. Claims 1-2 and 9-94 are pending in the application. Claims 17-94 are withdrawn from consideration. Claims 1-2 and 9-16 are considered on merits.

Response to Amendment

2. Objections to the claims are withdrawn in view of the amendment. Rejections of pending claims under 35 U.S.C. 112, second paragraph, remains. Rejection of the claims over the prior art is withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2 and 9-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "a cut time". It is not apparent, as to what is meant by this term. Is this a pulse?

From claim 11 it is not clear, as to how "application of a process of resonance excitation and off resonance detection (TONROF)" recited in the preamble of the claim differs from the method recited in claim 1. It appears that claim 1 recites "a process of resonance excitation and off resonance detection", which is the same as TONROF. If TONROF is different from the recitation of claim 1, then it becomes unclear, as to what method of detection claim 1 recites. Clarification is respectfully requested.

Claim 13 is not clear. What does it mean, "ends at a time conveniently selected from the successive pulses of $\pi/2$ "? This expression is not apparent. What time is considered to be convenient?

In claim 15 it appears that the word "higher" should be replaced with "longer".

Response to Arguments

4. The Applicants' arguments filed on 08/22/08 have been fully considered and are found persuasive in most part. The examiner appreciates the Applicant's amendment, which considerably helped the prosecution by clarifying the subject matter of the pending claims.

The examiner still raises questions regarding 112, second paragraph, since, besides some unclear and indefinite terms, such as "a cut time", or "a time conveniently selected", the major question arises regarding the recitation of TONROF detection. To the examiner's understanding, the method recited in claim 1 describes TONROF detection, i.e. "transmission on - reception off". The Applicant indicates that the steps of performing TONROF in claim 11 are *additional* to the steps recited in claim 1, which makes the recitation of claims 11-15 quite confusing, and which raises a question, as to what then is recited in claim 1.

In response to the Applicants' remarks on the rejection over the prior art, the examiner would like to mention that she was not able to make rejections in the previous Office action due to the unclarity of the pending claims, as well as the absence of the most relevant references, which were supposed to be presented for the examiner at the time of the application filing; therefore, the examiner indicated potential rejection over *the prior art* recited by the Applicant and co-authors, rather than over the paper itself, contrary to the Applicant's assumption. The examiner provides both references which were unavailable at the time of issuing the previous Office action. Since the paper disclosing the instant invention and directly referring to the International pending patents has two authors, Cerioni and Pusiol, the examiner wonders if the second author's name was inadvertently omitted from the patent application.

Allowable Subject Matter

5. **Claims 1-2 and 9-16** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: the closest prior art is Cerioni et al. "A New Method to Obtain Frequency Offsets in NQR Multi-Pulse Sequences" *Hyperfine Interactions* (2004) 159:389–393, which is not the prior art for the instant application. Moreover, more recent articles related to the field of NQR refer to the indicated paper as the pioneer paper in describing the new NQR detection technique TONROF.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yelena G. Gakh/
Primary Examiner, Art Unit 1797

10/24/2008